

APPENDIX UV

*Non-Listed Plant and Wildlife Species Occurring
within Miramar Reservoir*

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Species Group	Species Type	How the Species uses the Miramar Reservoir Resources	Potential to Occur within the Miramar Reservoir	Post-Implementation Analysis
<i>Birds</i>				
Waterfowl - Dabblers	Mallard, American coot, Gadwall, Geese,	Bodies of standing water; typically forages at the surface and ducks head underwater to feed on plant material and occasionally aquatic insects, crustaceans, and other invertebrates; nests in vegetated habitat along the shore; wintering habitat includes reservoirs; migrating species	Present.	No anticipated change after the addition of purified water. These species include both residents and migrants and changes to habitat would not occur immediately. While a reduction in the resident population is possible due to potentially reduced food resources, it is not anticipated. However, even with the addition of purified water, the reservoir would still provide suitable habitat for these species. Changes are not expected to affect the use of reservoir as a migration stop-over site.
Waterfowl - Divers	Merganser, Bufflehead, Cormorants, Grebes	Bodies of standing water; dives underwater to feed on fish, aquatic insects, crustaceans, and other invertebrates; nests in vegetated habitat along the shore; wintering habitat includes reservoirs; migrating species	Present	No anticipated change after the addition of purified water. These species include both residents and migrants and changes to habitat would not occur immediately. While a reduction in the population is possible due to potentially reduced food resources, it is not anticipated. The reduced nutrient supply otherwise provided from the untreated water may result in potential decreases in prey food sources, including zooplankton. However, even with the addition of purified water, the reservoir would still provide suitable habitat for these species. Changes are not expected to affect the use of reservoir as a migration stop-over site.
Wading Birds	Heron, Egret, Bittern	Large bodies of standing water; breeds in shoreline vegetated habitat; preys on fish, amphibians, reptiles, invertebrates, small mammals; some may be migratory	Present	No anticipated change after the addition of purified water. No change to vegetated habitat is anticipated and potential changes to food sources would not occur immediately. The fish community is not expected to change significantly; however, some reduction in abundance may occur for some species, although fish would still be available to support foraging wading birds. The reduced nutrient supply otherwise provided from the untreated water may result in a decrease in prey food sources, including zooplankton. However, even with the addition of purified water, the reservoir would still provide suitable habitat for these species.

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Birds of Prey	Osprey, Hawks, Northern Harrier	Nests in trees adjacent to water; Osprey feed on fish by diving feet first.	Present.	No anticipated change after the addition of purified water. No change to vegetated habitat is anticipated and potential changes to food sources would not occur immediately. The fish community is not expected to change significantly; however, some reduction in abundance may occur for some species, although fish would still be available to support occasional fishing by osprey. Osprey utilize a variety of fishing resources in the area, including smaller ponds, Lake Poway, and others. Adjacent trees which are capable of supporting raptor nests include adjacent non-native eucalyptus and other trees. These resources are not expected to be affected by the proposed project. Nesting resources would still be available for northern harrier.
Other Fishing Birds	Belted kingfisher	Occurs as a winter visitor and does not breed in the area. Forages on fish by perching over water bodies and diving to catch prey.	High potential to occur	No anticipated change after the addition of purified water. No change to vegetated habitat is anticipated and potential changes to food sources would not occur immediately. The fish community is not expected to change significantly; however, some reduction in abundance may occur for some species, although fish would still be available to support occasional fishing by kingfisher.
Song Birds	Common Yellow-throat, Song Sparrow, Red-winged Blackbird, Warblers, Vireos	Perches on vegetation adjacent to bodies of water; feeds on invertebrates	Moderate potential to occur.	No anticipated change after the addition of purified water. Habitat to support these species is expected to not be affected and will remain to support foraging, cover, and nesting opportunities.
<i>Fish</i>				
Catfish	<i>Ictalurus punctatus</i> ¹	Freshwater habitat; lays eggs in crevices protected from currents. Feeds on aquatic plants, other fish, decaying vegetation, fish eggs, and crayfish, as well as snails, aquatic insects, and minnows	Present.	This species is expected to remain after the addition of purified water, although a reduction in the population is possible due to potentially reduced food resources. No change to vegetated habitat is anticipated; however, the reduced nutrient supply otherwise provided from the untreated water may result in a decrease in prey food sources, including zooplankton, as the primary food source for larger prey. However, even with the addition of purified water, the reservoir would still provide suitable habitat for this species.

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Bass	<i>Micropterus salmoides floridanus</i> ¹	Freshwater habitat; migrates to deeper water in winter and moves to shallow water to feed. Feed on a wide variety of food sources including invertebrates, but feed primarily on fish, especially rainbow trout.	Present.	This species is expected to remain after the addition of purified water and little change in the population is anticipated due to the abundance of prey species, which are expected to remain in the reservoir. The reduced nutrient supply otherwise provided from the untreated water may result in a decrease in some prey food sources (fish that feed primarily on phytoplankton and zooplankton and some other aquatic species). However, even with the addition of purified water, the reservoir would still provide suitable habitat for this species.
Trout	<i>Oncorhynchus mykiss</i> ²	Freshwater habitat; feeds on aquatic insects, fish eggs, and terrestrial insects that fall into the water	Present. Stocked by CDFW	This species is expected to remain after the addition of purified water, since the reservoir is stocked by CDFW and would not be directly affected by the addition of purified water.
Bluegill	<i>Lepomis macrochirus</i> ¹	Freshwater habitat; finds shelter among aquatic plants; feeds on zooplankton, aquatic insects and small fish	Present.	This species is expected to remain after the addition of purified water although a reduction in the population is possible due to potentially reduced food resources. The reduced nutrient supply otherwise provided from the untreated water may result in a decrease in prey food sources, including zooplankton, small aquatic insects, and small fish. However, even with the addition of purified water, the reservoir would still provide suitable habitat for this species.
Sunfish	<i>Lepomis microlophus</i> ¹	Freshwater habitat; feeds on mollusks and snails	Present.	This species is expected to remain after the addition of purified water although a reduction in the population is possible due to potentially reduced food resources. The reduced nutrient supply otherwise provided from the untreated water may result in a decrease in food sources for mollusks (algae and dead organisms). However, even with the addition of purified water, the reservoir would still be suitable habitat for this species.

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Crappie	<i>Pomoxis nigromaculatus</i> ¹	Freshwater habitat; inhabit areas of no current, clear water, and cover from aquatic vegetation. Small fish mainly eat zooplankton and aquatic insects; larger fish mainly consume small crustaceans, insect larvae, pupae and fish, and large fish consume primarily minnows and sunfishes.	Present.	This species is expected to remain after the addition of purified water although a reduction in the population is possible due to potentially reduced food resources. The reduced nutrient supply otherwise provided from the untreated water may result in a decrease in prey food sources, including zooplankton, small aquatic insects, crustaceans, and small fish. However, even with the addition of purified water, the reservoir would still provide suitable habitat for this species.
Carp	<i>Cyprinus carpio</i> ¹	Freshwater habitat; feeds on aquatic plants, algae, mollusks, worms, fish, and eggs.	Present.	This species is expected to remain after the addition of purified water, although a reduction in the population is possible due to potentially reduced food resources. The reduced nutrient supply otherwise provided from the untreated water may result in a decrease in prey food sources, including mollusks and possibly algae. However, even with the addition of purified water, the reservoir would still provide suitable habitat for this species..
Goldfish	<i>Carassius auratus</i> ¹	Freshwater habitat; feeds on algae, zooplankton, aquatic plants, small fish, and insects.	Present.	This species is expected to remain after the addition of purified water, although a reduction in the population is possible due to potentially reduced food resources. The reduced nutrient supply otherwise provided from the untreated water may result in a decrease in aquatic plants, and prey food sources, including zooplankton and insects. However, even with the addition of purified water, the reservoir would still provide suitable habitat for this species.
Golden shiner	<i>Notemigonus crysoleucas</i> ¹	Freshwater habitat; feeds on zooplankton, mollusks, and insect larvae.	Present.	This species is expected to remain after the addition of purified water, although a reduction in the population is possible due to potentially reduced food resources. The reduced nutrient supply otherwise provided from the untreated water may result in a decrease in prey food sources, including zooplankton, mollusks, and insect larvae. However, even with the addition of purified water, the reservoir would still provide suitable habitat for this species.

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Threadfin shad	<i>Dorosoma petenense</i> ¹	Freshwater habitat; feeds on zooplankton and phytoplankton.	Present.	This species is expected to remain after the addition of purified water, although a reduction in the population is possible due to potentially reduced food resources. The reduced nutrient supply otherwise provided from the untreated water may result in a decrease in both phytoplankton and zooplankton. However, even with the addition of purified water, the reservoir would still provide suitable habitat for this species.
Mosquitofish	<i>Gambusia affinis</i> ²	Freshwater habitat; feeds on zooplankton, algae, aquatic and terrestrial insects.	Present.	This species is expected to remain after the addition of purified water, although a reduction in the population is possible due to potentially reduced food resources. The reduced nutrient supply otherwise provided from the untreated water may result in a decrease in prey sources, including zooplankton, algae, and aquatic insects. However, even with the addition of purified water, the reservoir would still provide suitable habitat for this species.
<i>Invertebrates</i>				
Crustaceans	Crayfish ¹	Pest species. Freshwater habitat. Crayfish are considered detritivores or omnivores.	Present.	Crayfish are expected to remain after the addition of purified water, although a reduction in the population is possible due to potentially reduced food resources. The reduced nutrient supply otherwise provided from the untreated water may result in a decrease in the amount of detritus, aquatic insects, and algae available for consumption. However, even with the addition of purified water, the reservoir would still provide suitable habitat for this species.
Aquatic Macroinvertebrates	Aquatic insects	Freshwater habitat. Feed primarily on phytoplankton and zooplankton	Present.	Aquatic insects are expected to remain after the addition of purified water, although a reduction in the population is possible due to potentially reduced food resources. The reduced nutrient supply otherwise provided from the untreated water may result in a decrease in the amount of phytoplankton and zooplankton available for consumption. There may be ecological adaptations (e.g.,

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				changes in phytoplankton and zooplankton species composition) to sustain the ecosystem. However, even with the addition of purified water, the reservoir would still provide suitable habitat for these organisms.
<i>Amphibian</i>				
Frogs	American bullfrog ¹	Pest species. Inhabits permanent freshwater; reproduction is aquatic; tadpoles are found in shallow warm water; adults occupy vegetated shorelines	Present.	Not anticipated to change after the addition of purified water. No change to vegetated habitat is anticipated and potential changes to food sources would not occur immediately. There could be ecological adaptations to sustain the ecosystem.
<i>Reptiles</i>				
Turtles	Red-eared sliders ¹	Pest species. Freshwater habitat; lays eggs on land; feeds on aquatic plants, invertebrates, and crustaceans	Present.	Not expected to change after the addition of purified water. The reduced nutrient supply otherwise provided from the untreated water may result in a decrease in the numbers of invertebrates and crustaceans available for consumption, and prey food sources, including zooplankton. No change to vegetated habitat is anticipated and potential changes to food sources would not occur immediately. There could be ecological adaptations to sustain the ecosystem. However, even with the addition of purified water, the reservoir would still provide suitable habitat for this species.
Mammals	None	No mammal species are anticipated to be reliant on the reservoir, for purposes other than drinking water. Species would still be able to drink if needed.	N/A	There are no water-dependent mammal species, such as beaver, muskrat, or otter that occur in this area.
<i>Plants</i>				
Sedge Family	California bulrush (<i>Schoenoplectus californicus</i>)	Bogs and fens, marshes and swamps (montane lake margins)	Present.	This species will remain after the addition of purified water. No change to vegetated habitat is anticipated.. Changes to soil and habitat may occur over time. There could be ecological adaptations to sustain the ecosystem.

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Tamarisk Family	Tamarisk (<i>Tamarix ramosissima</i>) ¹	Washes, streambanks	Present.	This species will remain after the addition of purified water. No change to vegetated habitat is anticipated. . Changes to soil and habitat may occur over time. There could be ecological adaptations to sustain the ecosystem.
Sunflower Family	Mule fat (<i>Baccharis salicifolia</i>)	Riparian woodland, canyon bottoms, disturbed sites, often forming thickets	Present.	This species will remain after the addition of purified water. No change to vegetated habitat is anticipated. Changes to soil and habitat may occur over time. There could be ecological adaptations to sustain the ecosystem.
Willow Family	Willow sp. (<i>Salix</i> sp.)	Streamsides, marshes, seepage areas, washes, meadows	Present.	This species will remain after the addition of purified water. No change to vegetated habitat is anticipated.. Changes to soil and habitat may occur over time. There could be ecological adaptations to sustain the ecosystem.

Notes:

- ¹ Non-native species.
- ² Stocked purposefully for recreational fishing or mosquito control purposes.

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